



FM Astronomy Club

OCTOBER 2011



WWW.FMASTRONOMY.COM



October Meeting

Tuesday, October 11
7:30 PM - 9:30 PM

Regional Science Center
Buffalo River Site

Bring your telescopes for a short observing night. This month there will be no clouds, the president has promised.

Next Event: November Meeting
Tuesday, November 8



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InOMN 2011 - Saturday October 8 Event Time: 7:30 PM - 9:30 PM (6:30 Setup)

The International Observe the Moon Night (InOMN) is an international program with the goal of dedicating an event to observing and learning about the Moon.

The FM Astronomy Club, with the cooperation of the Fargo Public Schools, is hosting an InOMN event on Saturday, October 8 at Discovery Middle School. The event is open to the public, but we are designing the event for middle school students and their parents.

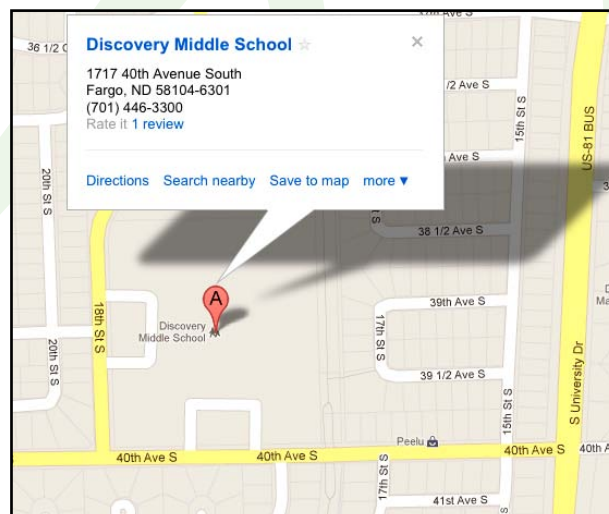
Even if weather prevents observing we will hold a program. If you would like to volunteer to help with the indoor programs please contact Dave.

This is an exciting event and we're expecting a good turn out. We hope to see everyone at InOMN!

<http://observethemoonnight.org>

Contacts:

Dave Weinrich - weinrich@mnstate.edu
Shawn Johnston - shawn.johnston@gmail.com



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FARGO-MOORHEAD ASTRONOMY CLUB

The Sky This Month October 2011

Reprinted with the permission (and our thanks!) of Dr. Brian Ventrudo, Publisher, One-Minute Astronomer.

Here are some highlights of what to see in the night sky this month.

Oct. 1-15. Look for the zodiacal light, or "false dawn", just before sunrise. This eerie wedge-shaped glow is reflected sunlight off fine dust particles in the plane of the solar system. Learn more about the zodiacal light here... <http://bit.ly/nYXqvH>

Monday October 3. First Quarter Moon at 3:15 UT.

8 Sat. Draconid Meteor Shower. This could be a big one!! Some predictions indicate an intense burst of activity, with hundreds of meteors per hour from 19:00-21:00 UT. If correct, this favours Europe, Africa, and Asia (including the early morning hours in parts of Australia and New Zealand). But the predictions are approximate, so North America might see some activity. Meteors will appear to radiate back to the far-northern constellation Draco. The nearly-full Moon interferes with the best view, but take a look anyway...

11 Tues. Full Moon at 2:06 UT.

12 Wed. Look for Jupiter close to the nearly Full Moon over the next 2 days.

13 Thurs. Saturn passes through conjunction with the Sun, lost from view. But the ringed planet begins to climb in the dawn sky late in the month.

14 Fri. The Full Moon is near the Pleiades star cluster in Taurus.

19 Wed. Last Quarter Moon at 3:30 UT.

22 Sat. Look for the Orionid Meteor Shower in the early morning hours. Not a rich shower, but it will occur in dark sky this year. Good shower for both southern and northern hemisphere.

26 Wed. New Moon at 19:56.

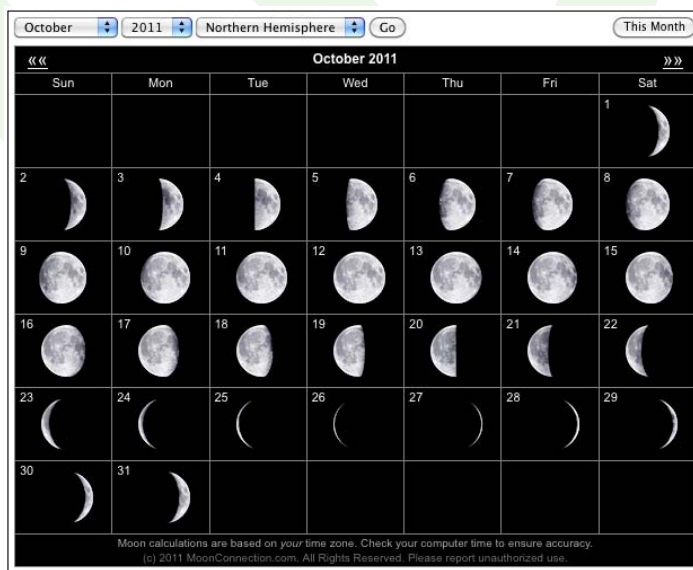
27 Thurs. Look for Mercury about 2 degrees below Venus low in the southwest about 15 minutes after sunset. The two planets stay close through mid-November

28 Fri. Jupiter reaches opposition, rising at sunset and reaching its highest point in the sky six hours later. This is the mid-point of the best time of year to see the big planet.

The October Sky. I'm reminded of the excellent movie of the same name. Based on the autobiography of Homer Hickam, the movie tells the story of a young man from a coal town in West Virginia who was inspired by the launch of Sputnik 1 across the October sky in 1957. Hickam and his young friends learned to engineer their own rockets, eventually winning a science fair and meeting Werhner von Braun. Hickam eventually working as an engineer for NASA.

Visit www.oneminuteastronomer.com for star maps, articles on observing, getting started in astronomy, and more.

Moon Phases - October 2011 www.MoonConnection.com



Reprinted with the permission of David Rose, developer of Moon-Connection.com. Thank you David!

Northern Lights Spotted in F-M Area

On the evenings of Tuesday September 27 and Wednesday September 28 a modest aurora was sighted in the Fargo-Moorhead region. Dr. Paul Seifert reported aurora that was briefly bright enough to see from the Concordia College observatory, a location that normally receives too much light pollution to see the aurora. Several others, including Dave Weinrich and Shawn Johnston, also reported seeing aurora.

This was probably the best aurora sighting since June, when auroras were visible for one night. There have been a few storms since June that were intense enough to generate auroras visible to this area but those times coincided with clouds and prevented observations.

Check out www.SpaceWeather.com for the latest aurora activity and photographs.





FM Astronomy Joins NASA's Night Sky Network

Exciting news for us! On September 12th the Fargo-Moorhead Astronomy Club became a member of NASA's Night Sky Network (NSN). NSN is a network of amateur astronomy groups from across the U.S. NSN is supported by NASA, JPL, and the Astronomical Society of the Pacific.

Some of the benefits we receive from membership in the NSN include:

- **Online Event Calendar:** provides national advertising and recognition for our events
- **Communication Tools:** to keep members up to date on club activities
- **Outreach ToolKits:** materials and handouts to use with our outreach programs
- **Networking Opportunities:** with individuals and organizations

Membership with the NSN is free. As we hold and report events we gain points on the network. With increased points our club receives additional outreach materials from NSN (free of cost to us). These materials include things like handouts that we can use during programs.

To take full advantage of NSN we're **asking everyone in the club to register** on the NSN web page.

<http://bit.ly/n5vsUO>

If you need help registering, or have further questions, please contact Shawn Johnston for assistance.

E-mail: shawn.johnston@gmail.com
Mobile (701) 200-1121

Earth Science Week

Earth Science Week is October 9 - 15 this year. The theme is "Our Ever-Changing Earth".

More information about Earth Science Week can be found online:

<http://www.earthsciweek.org>



FARGO-MOORHEAD ASTRONOMY CLUB

Fantastic Last Star Party of the Season!

We had a beautiful night for the last Star Party on the Prairie (Friday, September 23) out at the Minnesota State University Moorhead's Regional Science Center. The sunset was unusually pink. Perhaps aerosols or smoke from the large forest fire in NE Minnesota?

Once it got dark we had a beautiful view of the sky on the first day of fall. The September equinox was this morning at 4:05 am. It was a wonderfully clear night with a bright Milky Way arching overhead. Most of our audience was middle school students from area schools.

Jupiter was a big hit when it rose above the eastern treeline near the end of our viewing session. Among the other objects viewed were Alberio, the Hercules globular star cluster (M 13), the Andromeda galaxy (M 31), and the Ring nebula (M 51). People enjoyed having the constellations pointed out with the awesome green laser pointers.



Software Review: Go StarGaze

Developer: Astronomical Society of the Pacific
Requires: iPhone, iPod touch, or iPad

<http://bit.ly/nLmfDJ>

This is a free application available for the iPhone and iPod. I took a look on the Android market and I didn't see anything available nor is there a version for Palm/HP WebOS. I didn't check for Blackberry or Windows Mobile.

I don't have an iPhone or an iPod, but I do have an iPad, so I went to iTunes store and downloaded it. This is not a universal app nor do they have a specific version for just the iPad so it runs in a small screen mode as it emulates the smaller screened iPhones and iPods. You can increase the display size with the iPad, but it looks pretty weird. The app is basically the same thing as the widget found on the Night Sky Network's homepage.

(Continued on page 4)

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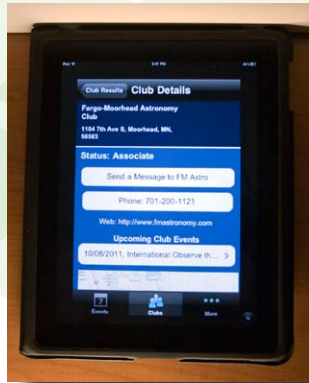
FARGO-MOORHEAD ASTRONOMY CLUB

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The first time I ran it the program asked to find my current location (using the iPad's location services). As it tried to determine my location, the app crashed and I had to relaunch it. Once the app restarted I was able to do a manual search to find the FM Astronomy club and its upcoming events.



Summary: Its a cool idea, but really doesn't offer anything that the NSN website doesn't. If you have an iPhone or iPod and find yourself with some free time during a road trip, this could be a quick way to find out if any astronomy events are going on nearby. Beyond that, the price is right.

Cool Website of the Month

US Naval Observatory <http://1.usa.gov/pZxn7D>
Complete Sun and Moon Data for One Day

NASA Space Places September-October issue <http://1.usa.gov/oBLEPf>

October 5, 1882: Robert Hutchings Goddard was born. Goddard is known as the "Father of the Space Age," because, in 1926, he built and successfully launched the first liquid-fueled rocket. Launch a bubble-fueled rocket at

<http://spaceplace.nasa.gov/pop-rocket>

October 26, 1959: Earth people see far side of the Moon for the first time. The Lunik 3 spacecraft (Soviet Union) takes the first photo of the far side of the Moon. See lots of pictures of all sides of the Moon at

<http://spaceplace.nasa.gov/gallery-earth/#moon>

At the MSUM Planetarium

Galaxies September 19 - October 31
Sunday at 2 PM and Monday at 7 PM.

The Milky Way stretches across the Autumn sky. It is the rim of our home galaxy, the Milky Way, as seen from the inside. Explore the Milky Way and other galaxies, taking a nature walk on a grand galactic scale.

<http://www.mnstate.edu/regsci/planetarium.cfm>



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International Observe the Moon Night

*What does the Moon
mean to you?*

SCALE AT EQUATOR:

1 CM = 200 KM



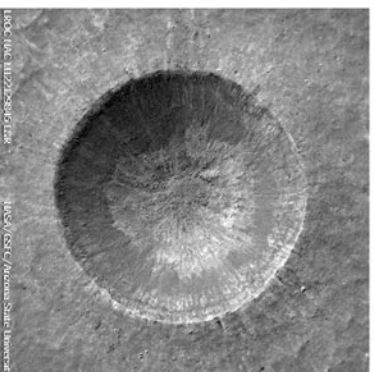
THE MOON AS IT APPEARS
08 OCTOBER 2011



Highlighted Lunar Features

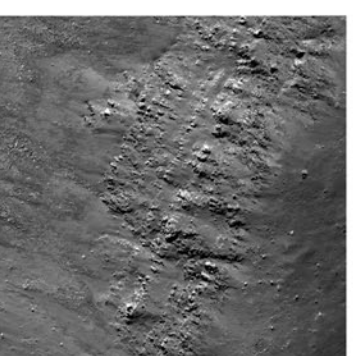
LINNE CRATER:

With its bowl shape and pristine features, lunar scientists consider Linne to be an excellent example of a simple impact crater. At 2.2 km in diameter, Linne is at the limiting resolution of moderately sized Earth-based telescopes. With the Narrow Angle Camera (NAC) aboard the Lunar Reconnaissance Orbiter (LRO), Linne's stunning shape is revealed for all to see.



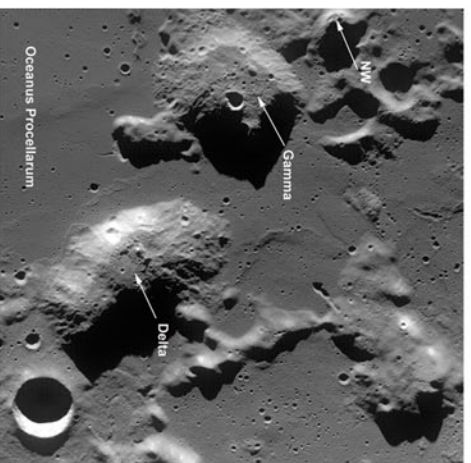
BESSEL CRATER:

Bessel crater is a moderately well preserved complex impact crater whose walls expose thin layers of mare basalt flows. Scientists use outcrops of exposed bedrock, like those seen in the walls of Bessel crater shown on the right, to help them understand the geology history of an area. This image was captured by LROC's NAC.



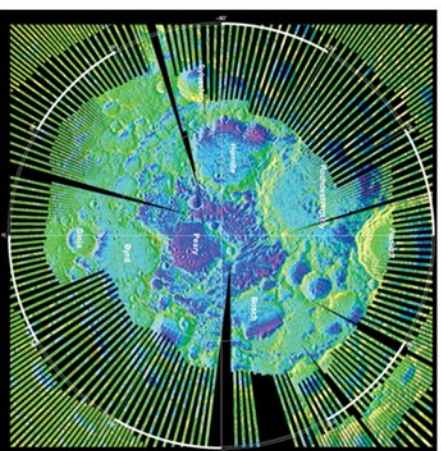
GRUTHUISEN DOMES:

The Gruithuisen domes are thought to be volcanic features produced by complex igneous processes. These steep-sided domes contain relatively low amounts of iron and titanium, and (according to LRO's Diviner instrument) have a composition similar to andesite or rhyolite - an unusual composition for the Moon.



HERMITE CRATER:

LRO's Diviner instrument measured temperatures of 35 Kelvin (-238° C) within some of the permanently shadowed areas inside Hermite crater — the coldest places measured to date in the entire Solar System.



TYCHO CRATER:

With its bright rays that splash across the nearside, Tycho crater is one of the most prominent features on the Moon. The large mountains in the center of the image below are 2 km high.



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